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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,201	06/27/2003	Stephen Ressler	857_027 NP	7629
25191	7590	10/04/2006	EXAMINER	
BURR & BROWN PO BOX 7068 SYRACUSE, NY 13261-7068			FICK, ANTHONY D	
			ART UNIT	PAPER NUMBER

1753

DATE MAILED: 10/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/608,201

Applicant(s)

RESSLER, STEPHEN

Examiner

Anthony Fick

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-6,8,9 and 11-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 23 is/are allowed.
- 6) ☒ Claim(s) 1,3-6,8,9,11-22 and 24-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1, 3 through 6, 8, 9 and 11 through 16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The original specification and claims contained the language "having a length which is a multiple of a length of a standard roofing tile". The amended claims now also contain "said multiple being an integer of at least two". This specification is not supported by the original disclosure and is deemed new matter.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 3 through 6, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rodriguez (WO 00/30184) in view of Plantfeber (U.S.P.G.Pub 2004/0031518).

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Rodriguez discloses a photovoltaic roof tile as shown in figure 1.

Regarding claim 1, the tile comprises a photovoltaic element with collection surface, 120, a frame holding the photovoltaic element in place, 118 in figure 2, the frame comprising a first end portion and second end portion, left and right sides of figure 2, the first end portion engageable with the second portion, as seen in figure 1.

Regarding claim 3, figure 2 also shows the first end portion has an upward hook shape and the second end portion has a downward hook shape.

Regarding claims 4 through 6, the tile of Rodriguez has a first end portion that is engageable to a first side portion of a standard roofing tile. The left side of figure 2 is engageable to side 21 of applicant's figure 2 depicting a standard roofing tile. Additionally the right side of figure 2 is engageable to side 22 of applicant's figure 2 depicting a standard roofing tile. Also figure 1 shows the two portions of Rodriguez's tile are engageable to each other.

Regarding claims 8 and 9, based on figure 2 and applicant's figure 2, the left side and right side of figure 2 are similar in shape to the shape of sides 22 and 21 of applicant's figure 2 depicting a standard roofing tile.

The difference between Rodriguez and the claims is the requirement of the tiles to have a length which is a multiple of a length of standard roofing tile, said multiple being an integer of at least two.

Plantfeber teaches a roofing element comprising at least one solar cell. The roofing element has the dimensions of a plurality of roofing tiles (abstract).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to make tile dimensions of a plurality of roofing tiles, an integer greater than or equal to 2, as in Plantfeber with the tiles of Rodriguez because these tile sizes allow for far fewer roofing elements to be required for the roof covering, fewer electrical connections are needed and the roof covering is less susceptible to failure and relatively is inexpensive (Plantfeber paragraphs 0004 and 0006). Because Plantfeber and Rodriguez are both concerned with solar roofing panels, one would have a reasonable expectation of success from the combination. Thus the combination meets the claims.

5. Claims 11, 12, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rodriguez in view of Plantfeber as applied to claims 1, 3 through 6, 8 and 9 above, and further in view of Mimura et al. (U.S. 6,336,304).

The disclosure of Rodriguez in view of Plantfeber is as stated above for claims 1, 3 through 6, 8 and 9. Rodriguez further discloses in figure 3 the use of projections or underhang portions, 137. These projections can be varied in size and shape (pg 6, paragraph 2).

The difference between Rodriguez in view of Plantfeber and claims 11, 12, 14 and 15 is the requirement of a retaining clip.

Mimura teaches a method for mounting solar panels on a roof. Figure 3 shows a retaining clip, 206, utilized to attach adjacent panels, 106 and 107, to each other and the roof structure, 204. The retaining clip comprises an underhang engaging portion thinner than the space between the underhang and the frame, a flat portion for

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attachment to the roof deck, and a portion connecting the flat portion and underhang-engaging portion (figure 3).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the retaining clip and underhang of Mimura within the roofing system of Rodriguez in view of Plantfeber because the retaining clip substantially supports the wind endurance of the roofing system so the use of the clip reduces damage done by wind on the tiles (Mimura column 11, paragraph 5). Because Mimura and Rodriguez in view of Plantfeber are concerned with photovoltaic roof structures, one would have a reasonable expectation of success from the combination. Thus the combination meets claims 11, 12, 14 and 15.

6. Claims 13 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rodriguez in view of Plantfeber as applied to claims 1, 3 through 6, 8 and 9 above, and further in view of Bressler et al. (U.S. 5,590,495).

The disclosure of Rodriguez in view of Plantfeber is as stated above for claims 1, 3 through 6, 8 and 9. Rodriguez further discloses in figure 1 positioning the tiles on the roof by engaging the end portion of a tile with the side portion of the neighboring tile. This engaging is done for multiple tiles within the same row of tiles.

The difference between Rodriguez in view of Plantfeber and claims 13 and 16 is the requirement of roofing tiles included with the photovoltaic tiles within the roofing system.

Bressler teaches a solar roofing system. The system shown in figures 5B and 5C comprises photovoltaic tiles along with typical roofing tiles within the same system.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include conventional non photovoltaic tiles as in Bressler within the roofing system of Rodriguez in view of Plantfeber because the inclusion of the conventional tiles allows an ornamental appearance of the photovoltaic modules (Bressler column 4, paragraph 4) and increases the design options and aesthetics of the roof structure. Because Bressler and Rodriguez in view of Plantfeber are concerned with photovoltaic roofing systems, one would have a reasonable expectation of success from the combination. Thus the combination meets claims 13 and 16.

7. Claims 17, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rodriguez (WO 00/30184) in view of Bressler et al. (U.S. 5,590,495).

Rodriguez discloses a photovoltaic roof tile as shown in figure 1. The tile comprises a photovoltaic element with collection surface, 120, a frame holding the photovoltaic element in place, 118 in figure 2, the frame comprising a first end portion and second end portion, left and right sides of figure 2, the first end portion engageable with the second portion, as seen in figure 1. Figure 2 also shows the first end portion has an upward hook shape and the second end portion has a downward hook shape. Further, the tile of Rodriguez has a first end portion that is engageable to a first side portion of a standard roofing tile. The left side of figure 2 is engageable to side 21 of applicant's figure 2 depicting a standard roofing tile. Additionally the right side of figure 2 is engageable to side 22 of applicant's figure 2 depicting a standard roofing tile.

The difference between Rodriguez and claims 17 and 21 is the requirement of roofing tiles included with the photovoltaic tiles within the roofing system.

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Bressler teaches a solar roofing system. The system shown in figures 5B and 5C comprises photovoltaic tiles along with typical roofing tiles within the same system. It is the position of the examiner that the end portions of the photovoltaic tiles within Bressler are engaged with the end portions of the standard tiles.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include conventional non photovoltaic tiles as in Bressler within the roofing system of Rodriguez because the inclusion of the conventional tiles allows an ornamental appearance of the photovoltaic modules (Bressler column 4, paragraph 4) and increases the design options and aesthetics of the roof structure. Further, engaging the photovoltaic tiles with the neighboring standard tiles improves the sealing capability of the roof structure. Because Bressler and Rodriguez are both concerned with photovoltaic roofing systems, one would have a reasonable expectation of success from the combination. Thus the combination meets claims 17, 20 and 21.

8. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rodriguez in view of Bressler as applied to claims 17 and 20 above, and further in view of Mimura et al. (U.S. 6,336,304).

The disclosure of Rodriguez in view of Bressler is as stated above for claims 17, 20 and 21. Rodriguez further discloses in figure 3 the use of projections or underhang portions, 137. These projections can be varied in size and shape (pg 6, paragraph 2). Rodriguez also discloses in figure 1 the method of attaching multiple courses of tiles whereby the tile in one course overlaps a tile in a different course such that the desired reveal length is not covered.

The difference between Rodriguez in view of Bressler and claims 18 and 19 is the requirement of a retaining clip.

Mimura teaches a method for mounting solar panels on a roof. Figure 3 shows a retaining clip, 206, utilized to attach adjacent panels, 106 and 107, to each other and the roof structure, 204. The retaining clip comprises an underhang engaging portion thinner than the space between the underhang and the frame, a flat portion for attachment to the roof deck, and a portion connecting the flat portion and underhang-engaging portion (figure 3). Mimura further teaches other embodiments of the retaining clip including the clip of figure 13 which overlaps only a portion of the underhang portion.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the retaining clip and underhang of Mimura within the roofing method of Rodriguez in view of Bressler because the retaining clip substantially supports the wind endurance of the roofing system so the use of the clip reduces damage done by wind on the tiles (Mimura column 11, paragraph 5). Because Mimura and Rodriguez in view of Bressler are all concerned with photovoltaic roof structures, one would have a reasonable expectation of success from the combination. Thus the combination meets claims 18 and 19.

9. Claims 22, 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rodriguez (WO 00/30184) in view of Mimura et al. (U.S. 6,336,304).

Rodriguez discloses a photovoltaic roof tile as shown in figure 1. The tile comprises a photovoltaic element with collection surface, 120, a frame holding the

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photovoltaic element in place, 118 in figure 2, the frame comprising a first end portion and second end portion, left and right sides of figure 2, the first end portion engageable with the second portion, as seen in figure 1. Figure 2 also shows the first end portion has an upward hook shape and the second end portion has a downward hook shape. Further, the tile of Rodriguez has a first end portion that is engageable to a first side portion of a standard roofing tile. The left side of figure 2 is engageable to side 21 of applicant's figure 2 depicting a standard roofing tile. Additionally the right side of figure 2 is engageable to side 22 of applicant's figure 2 depicting a standard roofing tile. Rodriguez further discloses in figure 3 the use of projections or underhang portions, 137. These projections can be varied in size and shape (pg 6, paragraph 2). Rodriguez also discloses in figure 1 the method of attaching multiple courses of tiles whereby the tile in one course overlaps a tile in a different course such that the desired reveal length is not covered.

The difference between Rodriguez and claims 22 and 25 is the requirement of a retaining clip. The difference between Rodriguez and claim 24 is the requirement of a specific underhang portion.

Mimura teaches a method for mounting solar panels on a roof. Figure 3 shows a retaining clip, 206, utilized to attach adjacent panels, 106 and 107, to each other and the roof structure, 204. The retaining clip comprises an underhang engaging portion thinner than the space between the underhang and the frame, a flat portion for attachment to the roof deck or roof engaging portion, and a portion connecting the flat portion and underhang-engaging portion (figure 3). Mimura further teaches other

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embodiments of the retaining clip including the clip of figure 13 which overlaps only a portion of the underhang portion. Mimura also teaches in figure 3, the underhang portion consists of a first element being planar and a second element extending from the frame to the first element.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the retaining clip and underhang of Mimura within the roofing method of Rodriguez because the retaining clip substantially supports the wind endurance of the roofing system so the use of the clip reduces damage done by wind on the tiles (Mimura column 11, paragraph 5). Because Mimura and Rodriguez are all concerned with photovoltaic roof structures, one would have a reasonable expectation of success from the combination. Thus the combination meets claims 22, 24 and 25.

10. Claims 26 through 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rodriguez (WO 00/30184) in view of Bressler et al. (U.S. 5,590,495), and further in view of Mimura et al. (U.S. 6,336,304).

Rodriguez discloses a photovoltaic roof tile as shown in figure 1. The tile comprises a photovoltaic element with collection surface, 120, a frame holding the photovoltaic element in place, 118 in figure 2, the frame comprising a first end portion and second end portion, left and right sides of figure 2, the first end portion engageable with the second portion, as seen in figure 1. Figure 2 also shows the first end portion has an upward hook shape and the second end portion has a downward hook shape. Further, the tile of Rodriguez has a first end portion that is engageable to a first side portion of a standard roofing tile. The left side of figure 2 is engageable to side 21 of

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applicant's figure 2 depicting a standard roofing tile. Additionally the right side of figure 2 is engageable to side 22 of applicant's figure 2 depicting a standard roofing tile.

Rodriguez further discloses in figure 3 the use of projections or underhang portions, 137. These projections can be varied in size and shape (pg 6, paragraph 2). Rodriguez also discloses in figure 1 the method of attaching multiple courses of tiles whereby the tile in one course overlaps a tile in a different course such that the desired reveal length is not covered.

The differences between Rodriguez and claims 26 through 29 are the requirement of roofing tiles included with the photovoltaic tiles within the roofing system, the requirement of a specific retaining clip and the requirement of a specific underhang portion.

Bressler teaches a solar roofing system. The system shown in figures 5B and 5C comprises photovoltaic tiles along with typical roofing tiles within the same system. It is the position of the examiner that the end portions of the photovoltaic tiles within Bressler are engaged with the end portions of the standard tiles.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include conventional non photovoltaic tiles as in Bressler within the roofing system of Rodriguez because the inclusion of the conventional tiles allows an ornamental appearance of the photovoltaic modules (Bressler column 4, paragraph 4) and increases the design options and aesthetics of the roof structure. Further, engaging the photovoltaic tiles with the neighboring standard tiles improves the sealing capability of the roof structure. Because Bressler and Rodriguez are both concerned

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with photovoltaic roofing systems, one would have a reasonable expectation of success from the combination.

Mimura teaches a method for mounting solar panels on a roof. Figure 3 shows a retaining clip, 206, utilized to attach adjacent panels, 106 and 107, to each other and the roof structure, 204. The retaining clip comprises an underhang engaging portion thinner than the space between the underhang and the frame, a flat portion for attachment to the roof deck or roof engaging portion, and a portion connecting the flat portion and underhang-engaging portion (figure 3). Mimura further teaches other embodiments of the retaining clip including the clip of figure 13 which overlaps only a portion of the underhang portion. Mimura also teaches in figure 3, the underhang portion consists of a first element being planar and a second element extending from the frame to the first element.

It would have been further obvious to one having ordinary skill in the art at the time the invention was made to utilize the retaining clip and underhang of Mimura within the roofing method of Rodriguez in view of Bressler because the retaining clip substantially supports the wind endurance of the roofing system so the use of the clip reduces damage done by wind on the tiles (Mimura column 11, paragraph 5). Because Mimura and Rodriguez in view of Bressler are all concerned with photovoltaic roof structures, one would have a reasonable expectation of success from the combination. Thus the combination meets claims 26 through 29.

Response to Arguments

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11. Applicant's arguments with respect to claims 1, 3 through 6 and 8 through 16 have been considered but are moot in view of the new ground(s) of rejection.

12. Applicant's arguments filed July 19, 2006 for claims 17 through 20 have been fully considered but they are not persuasive. Applicant argues that the roofing system of Bressler does not suggest positioning the photovoltaic tile such that the end is engaged with a roofing tile. The examiner respectfully disagrees. The figures within Bressler show engagement between the photovoltaic and standard tiles. As stated above this engagement improves the ability of the roofing material to protect against the environment and the position of the examiner is that the figures within Bressler are showing this engagement. In regards to the retaining clip of Mimura, Mimura does disclose a retaining clip in figure 13 that covers only a portion of the underhang portion. Also, the retaining clip does not cover the bottommost portion of the underhang in figure 3, the part below the connector 214. Thus Mimura teaches several clips that cover a portion of the underhang portion.

Allowable Subject Matter

13. Claim 23 is allowed.

14. The following is a statement of reasons for the indication of allowable subject matter: claim 23 requires the tiles to be movable in relation to each other. The tiles of Rodriguez are attached to each other via grooves and ridges as shown in figure 1. The tiles cannot move in relation to each other and one of ordinary skill in the art would not alter the tiles to move them in relation to each other. The tiles are meant to be a stable roofing material and movement in relation to the other tiles defeats that purpose.

Conclusion

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Fick whose telephone number is (571) 272-6393. The examiner can normally be reached on Monday thru Friday 7 AM to 4 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Anthony Fick *ADF*
AU 1753
October 2, 2006


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